Technical Attachment

Essentials and Eccentricities of E-learning

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Introduction

Distance electronic learning (e-learning) has proliferated concurrently with the Internet boom. Within the past two years, the Office of Personnel Management (OPM) and the Department of Commerce (DOC)/National Oceanic and Atmospheric Administration (NOAA) have developed e-learning portals for all Federal and DOC/NOAA employees respectively. These portals offer a plethora of topics, but how and when are e-learning most effective for National Weather Service (NWS) staff? This technical attachment strives to answer those questions. Section 1 describes the essence of e-learning. Section 2 discusses beneficial aspects of e-learning. In contrast, Section 3 describes pitfalls of e-learning. Section 4 outlines the experience of WFO Austin/San Antonio (EWX). Section 5 provides recommendations for all NWS staff.

The Essence of E-learning

E-learning is learning via electronic means, generally from a central depository (catalog). It is asynchronous, meaning the experience occurs at the learner's pace and time of choosing. The two main Federal Government e-learning portals for NWS staff are OPM's http://www.golearn.gov/, and DOC/NOAA's http://e-learning.doc.gov/noaa/. Both portals' catalogs have significant overlap, but cover a plethora of topics. Most of the offerings fall under the topic headings of: communication, customer service, human resources, information technology/computer skills, leadership, management, and personal/professional development. Individual offerings under each heading are called "courses", but since the average length to complete each one ranges from one to eight hours (average three hours), "modules" is a more appropriate term. The OPM (NOAA) sites offer approximately 50 (1600) modules with free access to all Federal (NOAA) Employees. Access to additional catalogs (e.g. SkillSoft) can be purchased for around $30 per individual, per year (SSD can provide more information on this process). The Advanced Warning Operations Course (AWOC) will be the first integration of NWS-developed training with the Learning Management System (LMS), which is planned to manage all NWS training in coming years.

Beneficial Aspects of E-learning

There are many beneficial aspects of e-learning, some of which directly address the most pressing difficulties with administering training in the NWS Field Offices, that of rotating shifts and a diverse workforce, spread across more than 120 locations over the entirety of the United States and its possessions. Since e-learning is delivered over the Internet, it is accessible 24 hours/day, 7 days/week – overcoming both NWS training limitations. In addition, e-learning can occur outside the office; while on travel, or at home if a student chooses. The relatively short time required to complete each individual module makes e-learning an option for those who must

work on personal development while on shift. Both the OPM and DOC/NOAA portals have systems for tracking training, which allows the student to stop in the middle of a module, bookmark or check progress at any time, and provide both the student and supervisor (or training coordinator) with the means to plan and assess progress. Despite these capabilities, problems do occur and functionality improvements are ongoing. However, technical support has been responsive to solving problems via email or telephone.

In terms of content, e-learning provides easily accessible training for topics not traditionally taught in academic programs (e.g., leadership, professional development), or for skills many NWS staff have not explicitly received training for (e.g., customer service, human resources). In fact, e-learning can be a valuable component of Individual Development Plans (IDPs), which are required of all NWS staff. Along these same lines, e-learning modules are a good tryout platform for those considering longer-term academic programs (e.g., University Assignment Program), before committing significant time and financial resources. Finally, some e-learning modules may be used for academic credit. For more information, see Meisner (2002).

Pitfalls of E-learning

Despite the positive aspects mentioned, e-learning, like any tool, has limitations and drawbacks that should be considered or tested by prospective students. The primary shortcoming is the courses are canned, relatively shallow treatments of topics, which doesn't allow for exploratory learning or the depth that some topics require. For example, leadership is rarely learned (or effective) from simply reading material or watching canned scenarios. True leadership comes from applied action.

Two other drawbacks to e-learning are actually the flip-sides of two positive aspects of e-learning: availability over the Internet and automated scoring and tracking. Even though the Internet makes it *possible* to utilize the modules from any location at any time, the realization is less due to maintenance and occasional problems with the portal, limitations in NWS bandwidth, or unknown problems in-between (e.g., denial of service attacks and viruses slowing down the entire Internet). Similarly, the scoring and tracking system is very poor for some of the modules, to the point of being unable to complete the modules without assistance from the technical support staff. The IT/computer-skills modules are notorious for these scoring and tracking problems.

The EWX Experience

Rather than being a planned goal, EWX's extensive experience stems from the happenstance of availability of e-learning, requirement for IDPs, and our local Building Leaders for a Solid Tomorrow (BLAST) program. In short, all three unified as a way for staff members to work on IDPs or personal BLAST development plans, then share knowledge one-to-one or at local BLAST meetings. Topics such as time management, writing effective email messages, and improving communication skills were most adaptable to both personal and office plans.

Nine EWX Staff completed 156 modules between April 1, 2003 and August 1, 2004. Similar to the offering categories, most of the modules were in the areas of communication, IT/computer skills, human resources, leadership, and management. Table 1 shows the module titles completed by more than one EWX Staff member.

Table 1. E-learning modules completed by more than one EWX
Staff member, April 1, 2003, to August 1, 2004.

Number	Module Title
6	E-mail Etiquette: Writing Effective E-mail Messages
4	360-Degree Feedback: Experiencing 360-Degree
4	Coping with Stress
4	E-learning
4	Frontline Leadership: Preparing to Lead
4	Interpersonal Communication: Effective Communication
4	IT Security Awareness - Beginner
3	Advancing Your Service Expertise
3	Commerce Computer Security Basics
3	Conquering Conflict Through Communication
3	Decision Making & Problem Solving: Decision Making Fundamentals
3	Effective Presentations: Planning a Presentation
3	Emotional Intelligence at Work
3	Foundations of Grammar
3	Organizational Skills: Time Management
3	Time Management: Planning Your Day
2	Merit System Principles and Prohibited Personnel Practices
2	MS PowerPoint 2002 Proficient User
2	Sexual Harassment: What Employees Should Know (Service)

Recommendations

The recommendations for other NWS staff summarize points already made. Namely, e-learning seems most useful as part of an IDP, where courses deemed successful (e.g., communication and management) can be recommended to others on a one-to-one basis or through group settings such as local BLAST or station meetings. IT/computer modules can be beneficial, but should be approached with caution, and intention to provide improvement feedback to module authors and technicians. We strongly encourage all NWS staff to try one course and decide if e-learning fits their training and development plans.

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References

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